

The step of comparing has been inherent in the conditional step of printing the print job. Nevertheless, claim 1 has been amended to positively recite the step of comparing the required level of print quality to the operating characteristics of the plurality of nozzles and in the event, based on the comparison, that the operating characteristics of the plurality of nozzles are sufficient to meet the level of print quality, printing the print job. Takada does not disclose this step.

The Examiner read this step (without the amendment) on the passages at column 12, lines 51-67, and column 13, lines 43-46 and Figure 31, steps S26-S28. The passage at column 12 generally describes a density correction process, but does not describe a step of comparing the required print quality level of the determining step with the operating characteristics of the plurality of nozzles and in the event, based on the comparison, that the operating characteristics of the plurality of nozzles are sufficient to meet the level of print quality, printing the print job. The column 13 passage merely refers to a density comparison of groups of nozzles for the purpose of an approximate equalizing process.

Steps S26-S28 of Fig. 31 are described at column 30, beginning at line 59. Step S26 determines whether a recording is started in response to a signal from control circuit 215. If the recording is to start, step S27 starts the recording. Step S28 then stops the recording when it is completed. These steps merely carry out a step of recording in response to a signal from control circuit 215. There is no mention of such signal and steps S26-S28 performing a step of comparing the required print quality level of the determining step with the operating characteristics of the plurality of nozzles and in the event, based on the comparison, that the operating characteristics of the plurality of nozzles are sufficient to meet the level of print quality, printing the print job. Thus, the columns 12 and 13 passages and steps S26-S28 do not separately or

collectively disclose the step of comparing and printing as recited in claim 1. Accordingly, these cited passages do not establish a prima facie case that Takada discloses the step of comparing and printing as claimed in claim 1.

Takada does not disclose an ink drop detector for detecting the operating characteristics of a plurality of nozzles to be used in the print job as claimed in claim 14. The Examiner reads the ink drop detector on element 1014 as shown in Fig. 1 of Takada. However, element 1014 is an optical reader having a light source directed on a image recorded on a medium and a sensor that receives light reflected from image recorded on the medium. Element 1014 has nothing to do with ink drop detection. Takada simply lacks the ink drop detector as claimed in claim 14.

With respect to claims 3 and 16, the Office Action incorrectly interprets "printmode" as equivalent to Takada's reference density, referring to column 12, lines 58-63. Applicants' specification clearly describes a printmode at page 11 as follows:

"The concept of printmodes is a useful and known technique of printing a portion of the total drops required for an image in multiple passes." This tends to control bleed and cockle by reducing the amount of liquid that is on page at any given time.

The specific partial printing pattern employed in each pass, and the way in which these different patterns add up to a single fully inked image is known as a printmode."

Takada does not disclose or teach a printmode and, therefore, does not determine the level of print quality from a print mode of the print job as recited in claims 3 and 16.

With respect to claim 6, Takada does not perform a drop detection test on the nozzles to detect operating characteristics thereof. The passage at column 13, lines 43-46, merely refers to a possible density correction for groups of nozzles. This has nothing to do with drop detection.

With respect to claims 7-9 and 19-21, Takada does not schedule a maintenance procedure, but rather just performs the service procedure described in column 22.

With respect to claims 12 and 24, Takada does not teach or disclose that the service procedure is performed in the event that the operating characteristics of the nozzles are not sufficient to meet the level of print quality required for the job, but rather just performs the service procedure described in column 22.

For the reasons set forth above, it is submitted that that the rejection of claim 1 and its dependent claims 2-13, 26 and 27 and claim 14 and its dependent claims 15-25 under 35 U.S.C. 102(b) is erroneous and should be withdrawn.

The Office Action rejects claims 2, 5, 15 and 18 under 35 U.S.C 103(a) as unpatentable over Takada in view of Pocket Guide to Digital Printers by Frank Cost, hereafter Cost. Cost is cited to show image resolution is a key indicator of print quality. The conclusion of obviousness is erroneous because Takada does not teach or disclose the steps of base claim 1 or the elements of base claim 14, as noted above in the discussion of the rejection of claims 1 and 14 under 35 U.S.C. 102(b).

The Office Action rejects claims 10 and 22 under 35 U.S.C 103(a) as unpatentable over Takada in view of U.S. Patent No. 5,583,547 to Gast et al., hereafter Gast. Gast is cited to show a wiping procedure for inkjet nozzles involving a threshold of a predetermined number of ink drops per nozzle. The conclusion of obviousness is erroneous because Takada does not teach or

disclose the steps of base claim 1 or the elements of base claim 14, as noted above in the discussion of the rejection of claims 1 and 14 under 35 U.S.C. 102(b).

The Office Action rejects claims 11 and 23 under 35 U.S.C 103(a) as unpatentable over Takada in view of U.S. Patent No. 5,398,054 to Fukazawa et al., hereafter Fukazawa. Fukazawa is cited as teaching a wiping procedure in the event the inkjet device remains idle for a period of time, referring to column 6, beginning at line 60 and bridging to column 7. This passage merely refers to scheduling maintenance at times "without the attention of the user". This has nothing to do with the idle time of the device. The conclusion of obviousness is erroneous because Takada does not teach or disclose the steps of base claim 1 or the elements of base claim 14, as noted above in the discussion of the rejection of claims 1 and 14 under 35 U.S.C. 102(b).

The Office Action rejects claims 13 and 25 under 35 U.S.C 103(a) as unpatentable over Takada in view of U.S. Patent No. 5,455,608 to Stewart et al., hereafter Stewart. Stewart was cited as showing a repeated spitting of inkjet nozzles. The conclusion of obviousness is erroneous because Takada does not teach or disclose the steps of base claim 1 or the elements of base claim 14, as noted above in the discussion of the rejection of claims 1 and 14 under 35 U.S.C. 102(b).

For the reasons set forth above, it is submitted that the rejection of claims 2, 5, 15 and 18 under 35 U.S.C. 103(a) is erroneous and should be withdrawn.

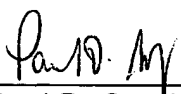
Attached hereto is a marked-up version of the changes made to the specification and claims by the present amendment. The attachment is captioned "Version With Markings To Show Changes Made."

It is respectfully requested for the reasons set forth above that the rejections under 35 U.S.C. 102(b) and 35 U.S.C. 103(a) be withdrawn, that claims 1-27 be allowed and that this application be passed to issue.

For the reasons set forth above, it is submitted that this amendment places the application in condition for allowance. Accordingly, it is respectfully requested that this application be allowed and passed to issue. If this amendment is deemed to not place the application in condition for allowance, it is respectfully requested that it be entered for the purpose of appeal.

Respectfully Submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

Application, Serial No. 09/886,414

IN THE CLAIMS

Please amend the claims as follows:

1. (Amended) A method of servicing a pen in an inkjet printing device, said pen comprising a plurality of nozzles, said method comprising:

receiving a print job;

determining a level of print quality required for said print job;

detecting the operating characteristics of a plurality of nozzles to be used to print said print job; and

comparing said operating characteristics of said plurality of nozzles to said required level of print quality for said print job and, in the event, based on the comparison, that said operating characteristics of said plurality of nozzles are sufficient to meet said level of print quality, printing said print job.